CLAIMS

1. Operational amplifier arrangement (OAA;OAA") including an arrangement input terminal (IN; IN1") to which an input voltage is supplied and an arrangement output terminal (OUT; OUT1") terminal, said operational amplifier arrangement further comprising

- a non-linear amplifier (A2;A2") , having a pair of input terminals one of which is coupled to said arrangement input terminal, said non-linear amplifier further including an output terminal coupled to said arrangement output terminal (OUT;OUT1")
- a linear amplifier (A3) , having a pair of input terminals one of which is coupled to said arrangement input terminal, said linear amplifier further including an output terminal which is coupled to said arrangement output terminal (OUT;OUT1") ,
- whereby the output terminal of said non-linear amplifier (A2;A2") is coupled to the output terminal of said linear amplifier (A3;A3") via a series impedance (R1;R1"),
- whereby the output terminal of said linear amplifier (A3;A3") is coupled to the arrangement output terminal (OUT;OUT1") via a terminating impedance (Rterm;Rterm"),
- and whereby the arrangement further includes an active backtermination arrangement (ABT;RFABT") coupled between the arrangement output terminal (OUT;OUT1") and either one of said pair of input terminals of said linear amplifier (A3;A3").

2. Operational amplifier arrangement (OAA;OAA") according to claim 1

characterised in that

said non-linear amplifier (A2;A2") is operating between a first power supply (VA2) , while said linear amplifier (A3;A3") is operating between a second power supply (VA3) which exceeds the supply voltage of said first power supply source.

3. Operational amplifier arrangement (OAA") according to claim 1 or 2

characterised in that

said operational amplifier arrangement (OAA") further includes a second arrangement input terminal (IN2") , and a second arrangement output terminal (OUT2") terminal, said input signal being a differential input signal, applied between said first arrangement input terminal (IN1") and said second arrangement input terminal (IN2"), between said pair of input terminals of said linear amplifier and applied between said pair of input terminals of said non-linear amplifier, said non-linear amplifier (A2") thereby including a second output terminal coupled to said second arrangement output terminal (OUT2') via a second series impedance (R1"), said linear amplifier (A3") thereby including a second output terminal coupled to the second arrangement output terminal (OUT2') via a second terminating impedance (Rterm"), said operational amplifier arrangement further including a second active backtermination arrangement (ABT") coupled between said second arrangement output terminal (OUT2") and the other one of said pair of input terminals of said linear amplifier (A3").

4. Operational amplifier arrangement (OAA") according to claim 3

characterised in that

said first series impedance (R1") is substantially equal to said second series impedance (R1"), said first terminating impedance (Rterm") is substantially equal to said second terminating impedance

(Rterm"), said first active back termination arrangement (RFABT") is substantially equal to said second active back termination arrangement (RFABT").

5. Operational amplifier arrangement (OAA'; OAA10; OAA10') including a pair of arrangement input terminals (IN,IN'; IN10,IN11; IN10',IN11') and a pair of arrangement output terminals (OUT,OUT'; OUT10,OUT11; OUT10',OUT11'), said operational amplifier arrangement further comprising

- first and second non-linear amplifiers (A2,A2'; A20,A21; A20',A21') , coupled between said arrangement input terminals and said arrangement output terminal
- first and second linear amplifiers (A3,A3';A30,A31; A30',A31') , coupled between said arrangement input terminals and said arrangement output terminals,
- whereby respective output terminals of said non-linear amplifiers are coupled to respective output terminals of said linear amplifiers via respective series impedances (R1,R1';R10,R11; R10',R11'),
- whereby respective output terminals of said linear amplifiers are coupled to respective arrangement output terminals via respective terminating impedances (Rterm,Rterm'; Rterm10,Rterm11; Rterm10',Rterm11'),
- and whereby the arrangement further includes a pair of active backtermination arrangements (RFABT,RFABT'; RFABT10,RFABT11; RFABT10',RFABT11') coupled between respective arrangement output terminals and either one of said pair of input terminals of either pair of linear amplifiers (A3,A3'; A30,A31; A30',A31').

6. Operational amplifier arrangement according to claim 5

characterised in that

said first and second non-linear amplifiers (A2,A2'; A20,A21; A20',A21') are operative between a first power supply voltage (VA2) ,

said first and second linear amplifiers (A3,A3';A30,A31; A30',A31') are operative between a second power supply voltage (VA3) which exceeds said first power supply voltage (VA2).

7. Operational amplifier according to claim 5 or 6

characterised in that

said respective series impedances (R1,R1';R10,R11; R10',R11') have substantially equal resistance values, said first and said second non-linear amplifiers (A2,A2'; A20,A21; A20',A21') are substantially identical, said first and said second linear amplifiers (A3,A3';A30,A31; A30',A31')are substantially identical, said respective terminating impedances (Rterm,Rterm'; Rterm10,Rterm11; Rterm10',Rterm11') are substantially identical, said active backtermination arrangements of said pair of active backtermination arrangements (RFABT,RFABT'; RFABT10,RFABT11; RFABT10',RFABT11') are substantially identical.

8. Operational amplifier arrangement (OAA10') according to claim 5, 6 or 7

characterised in that

said operational amplifier arrangement (OAA10') includes a second pair of active back terminating arrangements (RFABT100,RFABT101) coupled between the respective output terminals of said first and said second linear amplifiers and either input terminals of either said first or said second linear amplifiers (A30',A31).

9. Operational amplifier arrangement according to claim 8

characterised in that

the active back terminating arrangements of said second pair of active backterminating arrangements are substantially idential.

10. Amplifier arrangement according to any of the previous claims

characterised in that

the gain of a branch between one of said arrangement input terminals coupled in series with one of said linear amplifiers, said terminating resistance to one of said arrangement output terminals

equals the gain of a parallel branch between said one arrangement input terminal in series with one of said non-linear amplifiers said series resistance and said terminating resistance to said one of said arrangement output terminals .

11. Amplifier arrangement according to claim 10

characterised in that

the output impedance between one of said arrangement output terminals and one of said arrangement input terminals via said branch equals the output impedance between said one arrangement output terminal and said one arrangement input terminal via said parallel branch .

12. Operational amplifier arrangement according to any of the previous claims 1 to 7

characterised in that

the sum of said respective series impedance and said respective terminating impedance in series with said respective series impedance is equal to the series load impedance .

13. Operational amplifier arrangment according to claim 8 or 9

characterised in that

the sum of said respective series impedance and said respective terminating impedance in series with said respective series impedance is lower than the series load impedance.